

CLAIMS:

What is claimed is:

1. An engine intake manifold assembly, comprising:
 - a) a first component having an associated first mating surface;
 - 5 b) a second molded plastic component having an associated second mating surface;
 - c) an adhesive in contact with said first mating surface and said second mating surface for joining said first component and said second component to define an engine intake manifold, wherein the resulting joint has a strength greater than the
 - 10 strength of said second molded plastic component.
2. The assembly of Claim 1 wherein said first mating surface and said second mating surface are generally nonplanar.
3. The assembly of Claim 1 wherein said first component and said second component is a blend of a polyamide and a syndiotactic polystyrene.
- 15 4. The assembly of Claim 1 wherein each of said first component and said second component is an injection molded filled plastic blend of nylon 6,6 and syndiotactic polystyrene.
5. The assembly of Claim 1 wherein said joint is substantially free of a sealing gasket.
- 20 6. The assembly of Claim 1 wherein said joint is substantially free of mechanical fasteners.
7. The assembly of Claim 1 wherein the transverse cross section thickness at said joint is less than about 7 mm.
8. The assembly of Claim 1 wherein the transverse cross section
- 25 thickness at said joint is less than about 5 mm.
9. The assembly of Claim 1 wherein a primer contacts said adhesive.
10. The assembly of Claim 1 wherein substantially the entirety of the first and second mating surfaces in contact with said adhesive is capable of bonding thereto.

11. An automotive vehicle engine intake manifold assembly, comprising:

a) a first molded thermoplastic component having an associated first mating surface and an integrally formed first member;

5 b) a second molded thermoplastic component having an associated second mating surface and an integrally formed second member for coating with said first member to form a mechanical joint between said first molded thermoplastic component and said second molded thermoplastic component; and

c) an epoxy adhesive in contact with said first mating surface and said second mating surface for joining said first molded thermoplastic component and
10 said second molded thermoplastic component to define an automotive vehicle engine intake manifold, wherein said resulting joint has a strength greater than the strength of each of said first molded thermoplastic component and said second molded thermoplastic component.

12. The assembly of Claim 11 wherein said first mating surface and said second mating surface are generally nonplanar.

15 13. The assembly of Claim 11 wherein said first component and said second component are blends of polyamides and syndiotactic polystyrenes.

14. The assembly of Claim 11 wherein said first component and said second component are injection molded filled plastic blends of nylon and syndiotactic polystyrene.

20 15. The assembly of Claim 11 wherein said joint is substantially free of a sealing gasket.

16. The assembly of Claim 11 wherein said joint is substantially free of mechanical fasteners.

25 17. The assembly of Claim 11 wherein the transverse cross section thickness at said joint is less than about 7 mm.

18. The assembly of Claim 11 wherein the transverse cross section thickness at said joint is less than about 5 mm.

19. The assembly of Claim 11 wherein a primer contacts said adhesive.

20. The assembly of Claim 11 wherein substantially the entirety of the first and second mating surfaces in contact with said adhesive is capable of bonding thereto.

21. An automotive vehicle engine intake manifold assembly, comprising:

5 a) a first plastic component molded from the group selected from filled polyamide and filled polyamide/polystyrenic plastics, and having an associated first mating surface and an integrally formed first member;

10 b) a second plastic component molded from the group selected from filled polyamide and filled polyamide/polystyrenic plastics, and having an associated second mating surface and an integrally formed second member for coating with said first member to form a mechanical joint between said first plastic component and said second plastic component; and

15 c) an epoxy adhesive in contact with said first mating surface and said second mating surface for joining said first molded thermoplastic component and said second molded thermoplastic component to define an automotive vehicle engine intake manifold, wherein said resulting joint has a lap shear strength of at least about 4000 psi (28 MPa).

22. The assembly of Claim 21 wherein said first mating surface and said second mating surface are generally nonplanar.

20 23. The assembly of Claim 21 wherein said first component and said second component are blends of polyamides and syndiotactic polystyrenes.

24. The assembly of Claim 21 wherein said first component and said second component are injection molded filled plastic blends of nylon and syndiotactic polystyrene.

25 25. The assembly of Claim 21 wherein said joint is substantially free of a sealing gasket.

26. The assembly of Claim 21 wherein said joint is substantially free of mechanical fasteners.

27. The assembly of Claim 21 wherein the transverse cross section thickness at said joint is less than about 7 mm.

28. The assembly of Claim 21 wherein the transverse cross section thickness at said joint is less than about 5 mm.

5 29. The assembly of Claim 21 wherein a primer contacts said adhesive.

30. The assembly of Claim 21 wherein substantially the entirety of the first and second mating surfaces in contact with said adhesive is capable of bonding thereto.

31. The assembly of Claim 21, wherein said integrally formed second member coats with said first member to form a mechanical interlock between said first
10 plastic component and said second plastic component; and said adhesive of said resulting joint has a tensile strength of at least about 6500 psi (45 MPa).

32. The assembly of Claim 21, wherein said integrally formed second member coats with said first member to form a mechanical interlock between said first plastic component and said second plastic component; and said adhesive of said resulting
15 joint has a tensile strength of at least about 9000 psi (62 MPa).

33. The assembly of Claim 21, wherein said integrally formed second member coats with said first member to form a mechanical interlock between said first plastic component and said second plastic component;

said adhesive of said resulting joint has a tensile strength of at least about
20 9000 psi (62 MPa),

said resulting joint has a transverse cross section thickness less than about 5 mm;

said resulting joint is substantially free of a sealing gasket; and

said joint is substantially free of mechanical fasteners.

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